

U.S. Serial No. 10/731,777
Amendment Dated May 11, 2006
Response To Final Office Action Dated November 16, 2005

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Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the above-identified application:

Listing of Claims

1. (Currently Amended) A wing for a micro air vehicle, comprising:
a leading edge formed from a first material capable of bending in a first direction but not bending substantially in a second, generally opposite direction;
at least one layer of a resilient, flexible material that is different from the material forming the leading edge, extending from the leading edge to the trailing edge, and having a camber forming a concave surface facing downward, ~~wherein the material improves wind-gust rejection due to adaptive washout as a result of the material flexibly decambering; and~~
a plurality of ribs extending from the leading edge in the direction of the trailing edge;
wherein the wing is bendable from a steady state position in a first direction such that tips of the wing may be bent toward the concave surface but not substantially in a second direction that is generally opposite to the first direction; and
wherein the wing is capable of returning to the steady state position by releasing the tips of the wing.

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2. (Canceled)

3. (Previously Presented) The wing for a micro air vehicle of claim 1, wherein the leading edge is formed from an aramid fiber/epoxy mixture and at least a portion of the remainder of the at least one layer is formed from a mixture of carbon fiber and epoxy.

4. (Previously Presented) The wing for a micro air vehicle of claim 1, wherein the leading edge is formed from pre-impregnated carbon/epoxy fiber cloth.

5. (Previously Presented) The wing for a micro air vehicle of claim 1, wherein the leading edge is formed from an aramid fiber/epoxy mixture.

6. (Previously Presented) The wing for a micro air vehicle of claim 1, wherein the at least one layer of a resilient material is formed from materials selected from the group consisting of fiber reinforced laminates, foam materials, and plastics

7-8. (Canceled)

9. (Original) The wing for a micro air vehicle of claim 1, wherein a wing span of the wing is between about three inches and about twenty four inches.

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10. (Original) The wing for a micro air vehicle of claim 1, wherein the wing is capable of being bent around a central body of a micro air vehicle so that the micro air vehicle including the wing may fit within a tube having a diameter of about three inches.

11. (Original) The wing for a micro air vehicle of claim 1, further comprising a riser section forming a concave portion on an upper surface of the wing proximate to a trailing edge of the wing.

12. (Currently Amended) A micro air vehicle, comprising:
a central body;
a wing attached to the central body, wherein the wing comprises:
a leading edge formed from a first material capable of bending in a first direction but not bending substantially in a second, generally opposite direction;
at least one layer of a resilient, flexible material that is different from the material forming the leading edge, extending from the leading edge to the trailing edge, and having a camber forming a concave surface facing downward, ~~wherein the material improves wind gust rejection due to adaptive washout as a result of the material flexibly decambering; and~~

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a plurality of ribs extending from the leading edge in the direction of the trailing edge;

wherein the wing is bendable from a steady state position in a first direction such that tips of the wing may be bent toward the concave surface but not substantially in a second direction that is generally opposite to the first direction; and wherein the wing is capable of returning to the steady state position by releasing the tips of the wing.

13. (Canceled)

14. (Currently Amended) The micro air vehicle of claim 12, wherein the leading edge is formed from an aramid fiber/epoxy mixture and at least a portion of the remainder of the at least one layer is formed from a mixture of carbon fiber and epoxy

15. (Previously Presented) The micro air vehicle of claim 12, wherein the leading edge is formed from pre-impregnated carbon/epoxy fiber cloth.

16. (Previously Presented) The micro air vehicle of claim 12, wherein the leading edge is formed from an aramid fiber/epoxy mixture.

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17. (Previously Presented) The micro air vehicle of claim 12, wherein the at least one layer of a resilient material is formed from materials selected from the group consisting of fiber reinforced laminates, foam materials, and plastics.

18-19. (Canceled)

20. (Original) The micro air vehicle of claim 12, wherein a wing span of the wing is between about three inches and about twenty four inches.

21. (Original) The micro air vehicle of claim 12, wherein the wing is capable of being bent around a central body of a micro air vehicle so that the micro air vehicle including the wing may fit within a tube having a diameter of about three inches.

22. (Original) The micro air vehicle of claim 12, further comprising a riser section forming a concave portion on an upper surface of the wing proximate to a trailing edge of the wing.

23. (Original) The micro air vehicle of claim 12, further comprising a tail coupled to the central body that is generally orthogonal to the wing.

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24. (Original) The micro air vehicle of claim 12, further comprising a tail coupled to the central body that is generally vertical to the wing.

25-31. (Canceled)

32. (Previously Presented) The wing for a micro air vehicle of claim 1, wherein the material forming a remainder of the at least one layer is formed from latex.

33. (Previously Presented) The micro air vehicle of claim 12, wherein the material forming a remainder of the at least one layer is formed from latex.

34. (New) The wing for a micro air vehicle of claim 1, wherein the ribs are generally parallel to each other.

35. (New) The micro air vehicle of claim 12, wherein the ribs are generally parallel to each other.

36. (New) The wing for a micro air vehicle of claim 1, wherein the ribs are formed of carbon fiber.

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37. (New) The micro air vehicle of claim 12, wherein the ribs are formed of carbon fiber.